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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,751	05/27/2005	Graham Alexander Robertson	920602-96991	6833
23644 7590 07/10/2007 BARNES & THORNBURG LLP P.O. BOX 2786 CHICAGO, IL 60690-2786			EXAMINER CHRISS, JENNIFER A	
			ART UNIT 1771	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,751	Applicant(s) ROBERTSON, GRAHAM ALEXANDER	
	Examiner Jennifer A. Chriss	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-24 is/are pending in the application.
 4a) Of the above claim(s) 17-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-16 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1 – 16 and 24 in the reply filed on 5/3/07 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the backing mesh, the lower fine mesh and the rigid frame must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

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replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 6 is objected to because of the following informalities: claim 6 is dependent on claim 5, which has been cancelled. Appropriate correction is required. For purposes of examination at this time, the Examiner will assume that claim 6 is dependent on claim 1.

5. Claims 15 and 16 are objected to because of the following informalities: please spell out stainless steel rather than using "S/S". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2 – 4, 8 – 16 and 24 are rejected as being dependent on claims 1, 6 and 7.

8. Claims 1, 6 and 7 refer to a “coarser mesh backing cloth”, “an additional coarser mesh cloth” and “a fine mesh cloth”. Does “coarse” and “fine” refer to mesh size or wire size? For purposes of examination at this time, the Examiner will assume the Applicant intends to refer to wire size when using the terms “fine” and “coarse”. Please clarify.

9. Claim 7 requires that the mesh size of the upper fine mesh cloth and the mesh size of the cloth are very close. What is encompassed by “very close”? It should be noted that “very close” is a relative term and anything could be considered close on an infinite scale. For the purposes of examination at this time, the Examiner will assume any mesh size in the general vicinity can be considered “very close”.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

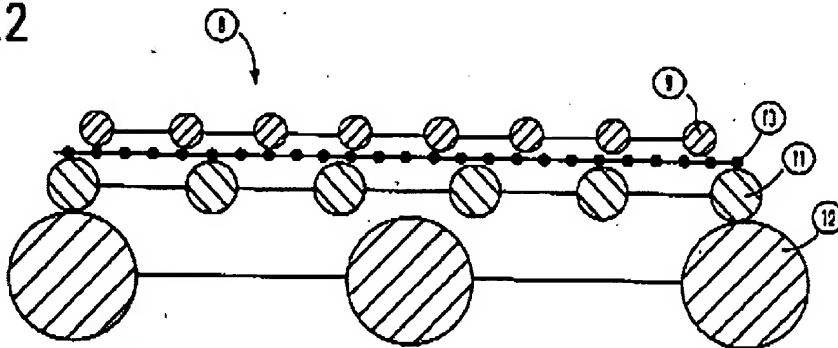
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1 – 8, 11, 15 – 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Just et al. (US 4,954,268) in view of Bailey (US 4,728,422).

Just et al. is directed to a multi-layered wire mesh filter (Abstract).

As to claims 1 and 7, Just et al. teach a multi-layered filter comprising mesh layers of different wire thicknesses and/or mesh size (Abstract). As shown in Just et al. Figure 2, a four layered mesh where filter cloth 10 is surrounded by the coarser protective meshes 9 and 11 as well as supporting mesh 12.

FIG.2



The Examiner equates the filter cloth 10 to Applicant's "one fine mesh cloth", mesh cloth 11 to Applicant's "fine mesh cloth" (mentioned in claim 7), mesh 12 to Applicant's "coarser mesh backing cloth" and mesh 9 to Applicant's "an additional coarser mesh cloth". The mesh size is selected to correspond to the mean particle diameter of the suspension particles and is constructed such that no filter breakthrough takes place (column 2, lines 45 – 55); the Examiner equates this to Applicant's "mesh and wire size at least are selected so as in general to prevent relatively large abrasive particles from

making contact with the fine mesh cloth". It should be noted that "abrasive particles" are not positively claimed and are only recited as intended use.

As to claim 8, Just et al. teach that the mesh has square holes (column 2, lines 30 – 40). It should be noted that a square is a type of rectangle.

As to claim 11, Just et al. teach that the mesh structure is attached to a rigid housing (see column 3, lines 25 – 35). See Figure 1.

As to claims 15 – 16, Just et al. teach that the mesh comprises stainless steel wires (see claim 4).

As to claim 24, Just et al. teach that the mesh structure is used as a multi-layered filtering device (Abstract). While it is noted that the claim recites an intended use as a filter for sift drilling mud recovered from a sea-bed drilling operation progressing through sub-sea strata composed of Utsira sand, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Just et al. teach the claimed invention but fail to teach that the tension in the additional coarse mesh cloth is greater than that in the fine mesh cloth(s) as required by claim 1. Just et al. fail to teach that the tension in the wires making up the cloth is different from the tension in the wires making up at least one of the other cloths as

required by claim 2. Just et al. fail to teach that a different tension exists in the wires making up each of the cloths as required by claim 3. Just et al. fail to teach that the tension in the wires of each of the cloths is the same as required by claim 4.

Bailey is directed to a sifting frame assembly with differentially tensioned screens (Title). Bailey teaches a filtering screen having at least 2 meshes, wherein the meshes have the same or different mesh size and have the same or different tension (column 1, lines 35 – 45). The use of differential tension in the meshes enables the screen to be self-cleaning (column 2, lines 35 – 45).

It would have been obvious to one of ordinary skill in the art to create meshes with the same tension or differential tensioning as suggested by Bailey motivated by the desire to create a filtering system of Just et al. with a self-cleaning ability.

As to claims 6, and 15 – 16, Just et al. in view of Bailey fail to teach that the tension in the additional coarse mesh cloth is approximately twice the tension in the fine mesh cloth as required by claim 6 and that the backing cloth is 30#, 0.280 mm diameter stainless steel wire, the fine mesh cloth is 180#, 0.030 mm diameter stainless steel wire and additional top cloth is 30# X 60#, 0.160 diameter stainless steel wire. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the tension in the mesh cloths, the mesh size and diameter since it has been held that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The burden is upon the

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Applicant to demonstrate that the claimed tension relationship, mesh size and wire diameter are critical and have unexpected results. In the present invention, one would have been motivated to optimize the tension relationship, mesh size and wire diameter motivated by the desire to create a filtering system with the desired filtering efficiency.

12. Claims 1 – 4, 6 – 14 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derrick, Jr. et al. (US 5,221,008) in view of Bailey (US 4,728,422).

Derrick, Jr. et al. is directed to a vibratory screening machine and non-clogging wear-reducing screen assembly therefor (Title).

As to claims 1 and 7, Derrick, Jr. et al. teach a screen comprising a coarse screen located in contiguous relationship to a plate, a fine screen on top of the coarse screen, a finer screen on top of the fine screen and a topmost screen which is less fine than the finer screen (Abstract). The Examiner equates the coarse screen to Applicant's "coarser mesh backing cloth", the fine screen on top of the coarse screen to Applicant's "one fine mesh cloth" (claimed in claim 7), the finer screen on top of the fine screen to Applicant's "fine mesh cloth" and the topmost screen which is less fine than the finer screen to Applicant's "coarser mesh cloth". Derrick, Jr. notes that the screen is constructed such that undesirable larger particles will not pass through the machine even if a screen should rupture during the screening process (column 2, lines 20 – 30); the Examiner equates this to Applicant's "mesh and wire size at least are selected so as in general to prevent relatively large abrasive particles from making contact with the fine

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mesh cloth". It should be noted that "abrasive particles" are not positively claimed and are only recited as intended use.

As to claim 8, Derrick, Jr. et al. teach that the openings are square (See Figures), which is a type of rectangle.

As to claims 11 – 12, Derrick, Jr. et al. teach that the rigid support frame is rectangular (See Figures).

As to claim 24, Derrick, Jr. et al. teach that the mesh structure is used as a multi-layered filtering device (Abstract). While it is noted that the claim recites an intended use as a filter for sift drilling mud recovered from a sea-bed drilling operation progressing through sub-sea strata composed of Utsira sand, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Derrick, Jr. et al. teach the claimed invention but fail to teach that the tension in the additional coarse mesh cloth is greater than that in the fine mesh cloth(s) as required by claim 1. Derrick, Jr. et al. fail to teach that the tension in the wires making up the cloth is different from the tension in the wires making up at least one of the other cloths as required by claim 2. Derrick, Jr. et al. fail to teach that a different tension exists in the wires making up each of the cloths as required by claim 3. Derrick, Jr. et al. fail to

teach that the tension in the wires of each of the cloths is the same as required by claim 4.

Bailey is directed to a sifting frame assembly with differentially tensioned screens (Title). Bailey teaches a filtering screen having at least 2 meshes, wherein the meshes have the same or different mesh size and have the same or different tension (column 1, lines 35 – 45). The use of differential tension in the meshes enables the screen to be self-cleaning (column 2, lines 35 – 45).

It would have been obvious to one of ordinary skill in the art to create meshes with the same tension or differential tensioning as suggested by Bailey motivated by the desire to create a filtering system of Derrick, Jr. et al. with a self-cleaning ability.

As to claims 9 – 10 and 13 – 14, Derrick, Jr. et al. in view of Bailey teach the claimed invention above but fail to teach that the rectangular openings are twice as long in one direction as in the other. It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the rectangular openings which are twice as long in one direction as in the other motivated by the desire to create an efficient filtering system and based on *In re Dailey* which has established that change in shape is obvious absent persuasive evidence that the particular configuration is significant. See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Furthermore, the limitation of “where the larger dimensions of the openings run parallel to the direction which separated solids migrate over the surface of the screen in use” is considered to be intended use. A recitation of the intended use of the claimed invention

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must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Chriss whose telephone number is 571-272-7783. The examiner can normally be reached on Monday - Friday 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571 - 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jennifer Chriss

July 2, 2007



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